

# Rectifier Diode

## Types W8405Z#020 to W8405Z#140

The data sheet on the subsequent pages of this document is a scanned copy of existing data for this product.  
(Rating Report 90NR18 Issue 1)

This data reflects the old part number for this product which is: SW02-14CXC32C.  
This part number must **NOT** be used for ordering purposes – please use the ordering particulars detailed below.

The limitations of this data are as follows:  
Only ZC outline drawing (W7) in datasheet  
Reverse recovery information not available

The following links will direct you to the appropriate outline drawings  
[Outline W7](#) – 37mm Clamp height capsule  
[Outline W42](#) – 26mm Clamp height capsule

Where any information on the product matrix page differs from that in the following data, the product matrix must be considered correct

An electronic data sheet for this product is presently in preparation.

For further information on this product, please contact your local ASM or distributor.

Alternatively, please contact Westcode as detailed below.

| <b>Ordering Particulars</b>  |  |  |            |
|--|--|--|------------|
| W8405  | Z#   | ◆◆                                     | 0          |
| Fixed Type Code  | ZC – 37mm Clamp height capsule<br>ZD – 26mm Clamp height capsule | Voltage code<br>$V_{RRM}/100$<br>02-14 | Fixed Code |
| Typical Order Code: W8405ZD140, 26mm clamp height capsule, 1400V $V_{RRM}$ |  |  |            |

|   |  |   |
|---|--|---|
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QUALITY EVALUATION LABORATORY

Rating Report: 90NR18

Date: 18th October, 1990

Pages: 10

Diode Type SW02-14CXC32C

Written by: M. Baker

Checked: *MB*

Approved: *BROA*

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The CXC32C range of diodes are based on a 76 mm diameter, all diffused silicon slice housed in a cold weld capsule.

Ratings

|   |   |
|---|---|
| Voltage Grades  | : 02-14                                       |
| $V_{RSM}$   | : 300-1500V                                   |
| $V_{RRM}$   | : 200-1400V                                   |
| $I_{F(AV)}$ : Single Phase; 50 Hz, 180° half sinewave;                          |   |
| Double side cooled $T_{HS} = 55^{\circ}C, 100^{\circ}C$                         | : 8410A; 6430A                                |
| Single side cooled $T_{HS} = 100^{\circ}C$                                      | : 3935A                                       |
| $I_F$ (rms) max. )  |   |
| ) Double side cooled $T_{HS} = 25^{\circ}C$                                     | : 15025A                                      |
| $I_F$ max. )  | : 12920A                                      |
| $I_{FSM}$ : t = 10ms half sinewave; $T_J$ (initial) = 190°C;                    |   |
| $V_{RM} = 0.6 V_{RRM}$ (Max)  | : 72 KA                                       |
| $I_{FSM}$ ; t = 10ms half sinewave; $T_J$ (initial) = 190 °C; $V_{RM} \leq 10V$ | : 79.2 KA                                     |
| $I^2t$ : t = 10ms; $T_J$ (initial) = 190 °C; $V_{RM} = 0.6 V_{RRM}$ (Max)       | : 25.92 x 10 <sup>6</sup> A <sup>2</sup> SECS |
| $I^2t$ : t = 10ms; $T_J$ (initial) = 190 °C; $V_{RM} \leq 10V$                  | : 31.4 x 10 <sup>6</sup> A <sup>2</sup> SECS  |
| $I^2t$ : t = 3ms; $T_J$ (initial) = 190 °C; $V_{RM} \leq 10V$                   | : 22.5 x 10 <sup>6</sup> A <sup>2</sup> SECS  |
| $T_{HS}$ Operating range  | : -55°C to +190°C                             |
| $T_{stg}$ ; Non-operating   | : -55°C to +200°C                             |

Characteristics

(Maximum values unless stated otherwise)

|                   |                           |                                |              |                |
|-------------------|---------------------------|--------------------------------|--------------|----------------|
| $V_O$ :           | $T_J = 190^\circ\text{C}$ | :                              | 0.67V        |                |
| $r_s$ :           | $T_J = 190^\circ\text{C}$ | :                              | 0.038 mohms  |                |
| COLD              |                           |                                |              |                |
| A :               | $T_J = 25^\circ\text{C}$  | :                              | 0.5426215    |                |
| B :               | $T_J = 25^\circ\text{C}$  | :                              | 5.007122E-2  |                |
| C :               | $T_J = 25^\circ\text{C}$  | :                              | 3.662236E-5  |                |
| D :               | $T_J = 25^\circ\text{C}$  | :                              | -1.731167E-3 |                |
| HOT               |                           |                                |              |                |
| A :               | (Constant)                | :                              | 0.2798311    |                |
| B :               | (B x ln i)                | :                              | 5.544857E-2  |                |
| C :               | (C x i)                   | :                              | 3.989276E-5  |                |
| D :               | (D x $\sqrt{i}$ )         | :                              | -1.369681E-3 |                |
| $V_{FM}$ :        | $I_{FM} = 6800A$          | $T_{VJ} = 190^\circ\text{C}$   | :            | 0.93V          |
| $R_{th}$ (J-HS)   | double side cooled        | :                              | 0.011 K/W    |                |
|                   | single side cooled        | :                              | 0.022 K/W    |                |
| $I_{RRM}$ :       | $T_J = 190^\circ\text{C}$ | $V_{RM} = V_{RRM(\text{Max})}$ | :            | 100mA          |
| $Q_{RA}$ :        | $I_{TM} =$                | $T_{VJ} =$                     | :            |                |
|                   | $V_{RM} =$                | $T_{VJ} =$                     | :            |                |
| Mounting Force    | :                         |                                | :            | 2700-4700 Kg.f |
| Outline Drawing   | :                         |                                | :            | 100A293        |
| JEDEC Outline No. | :                         |                                | :            |                |

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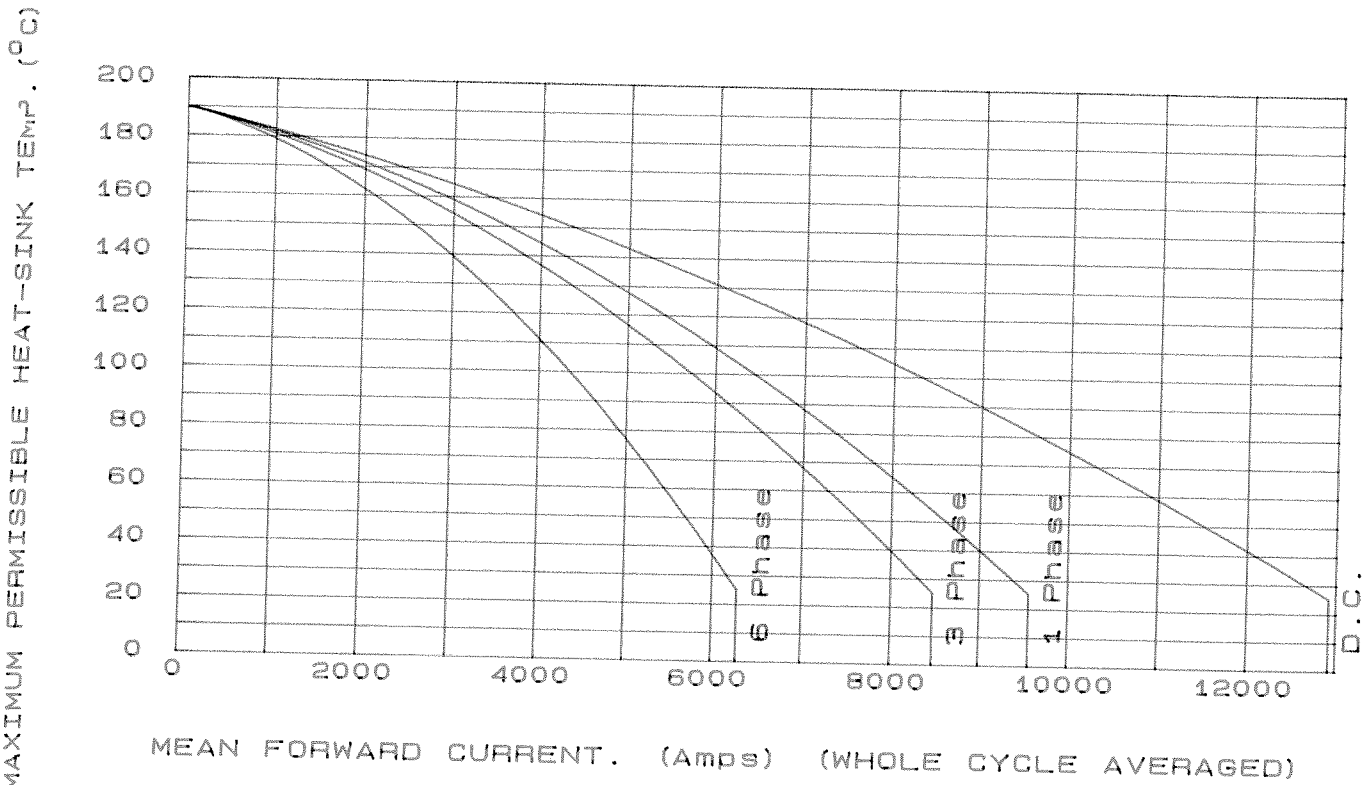
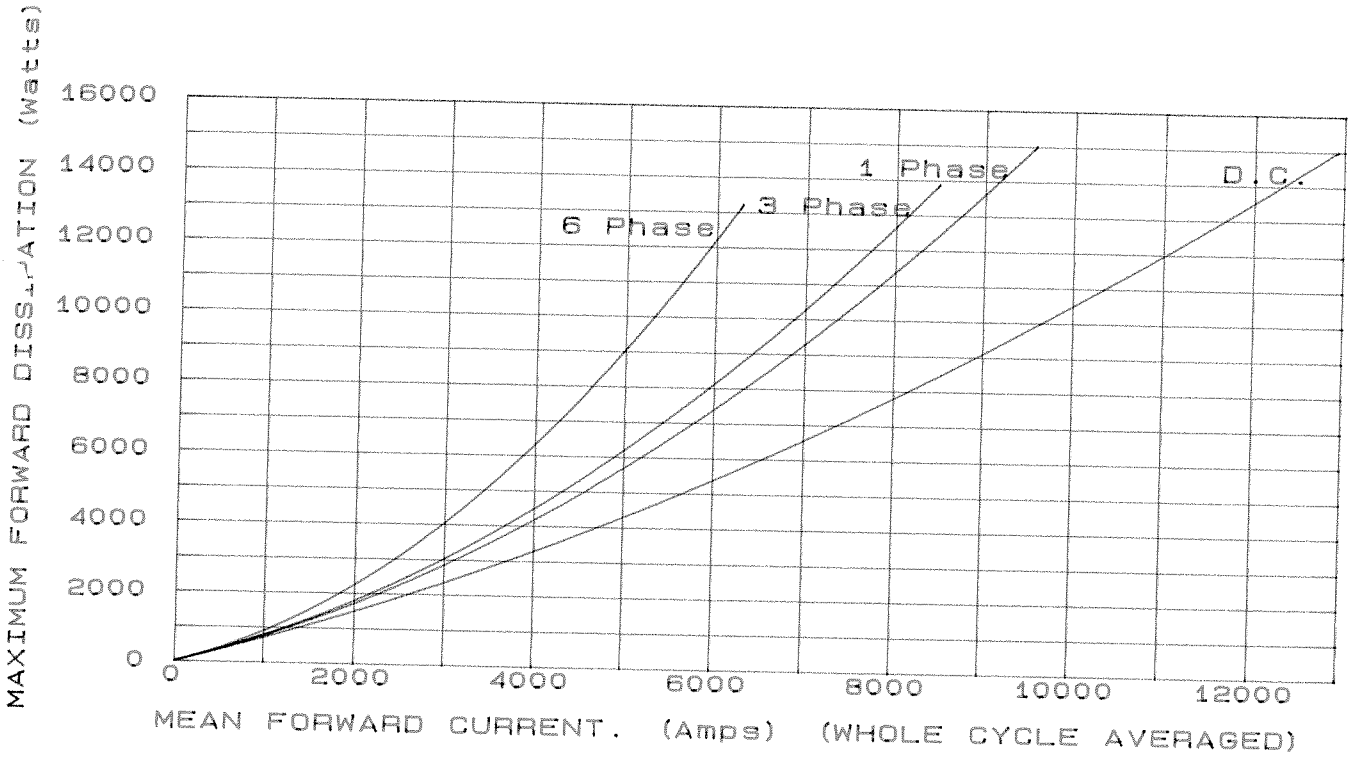
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Voltage Ratings

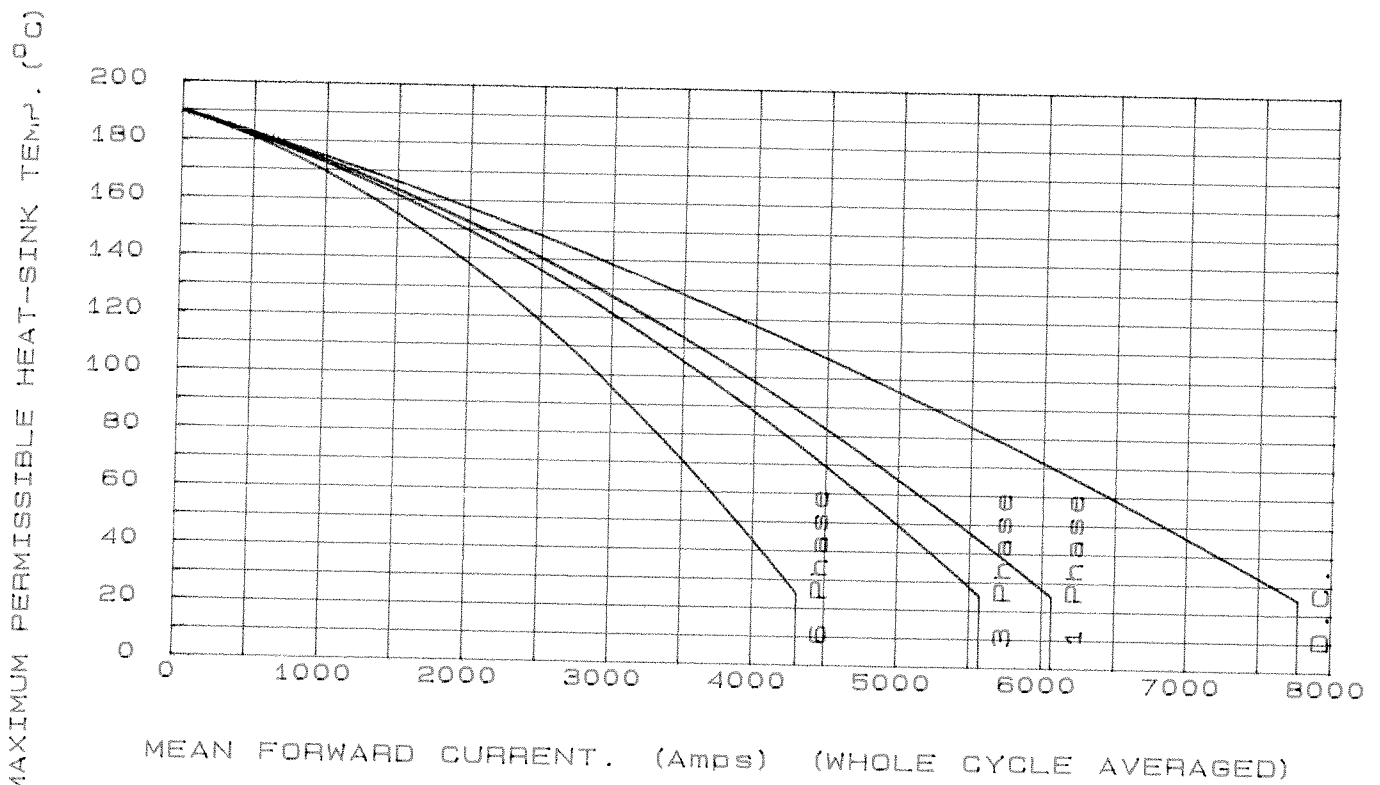
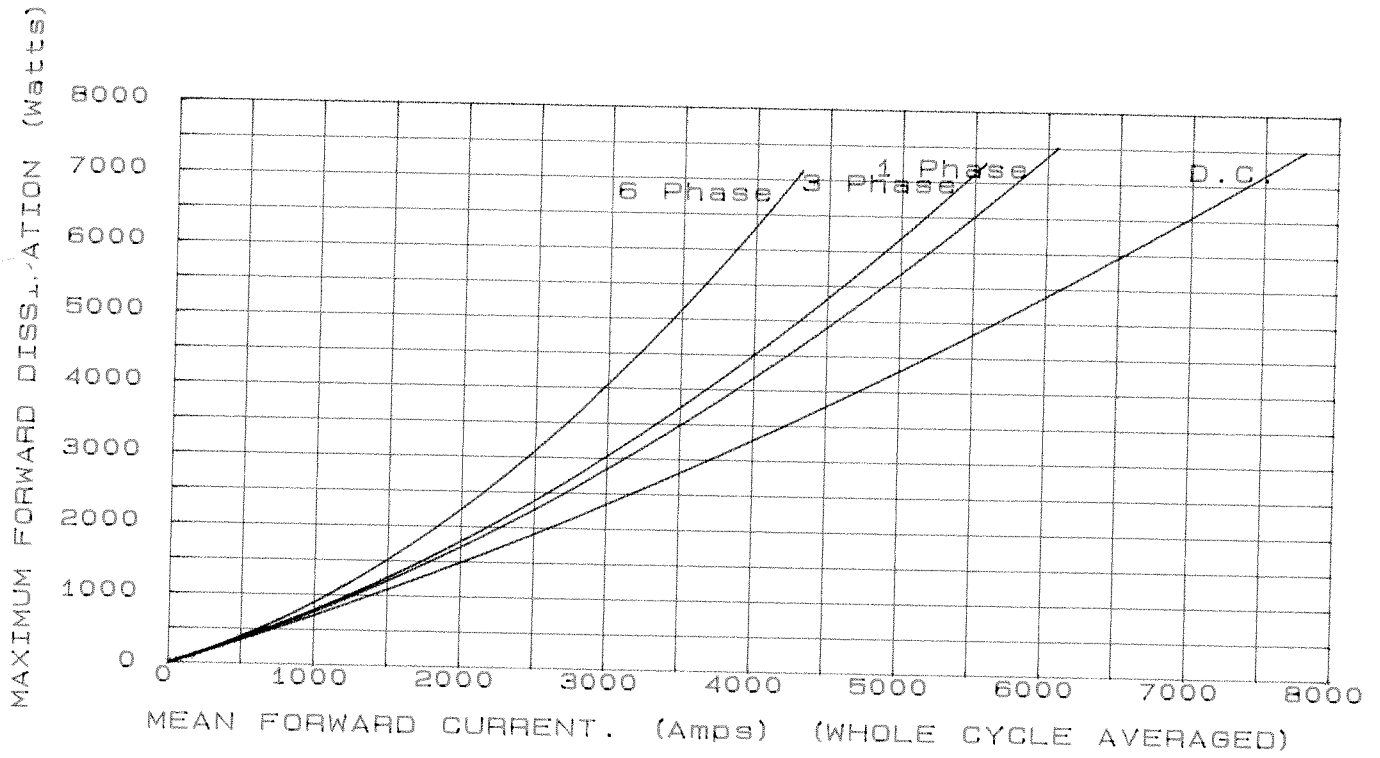
| Voltage Class | $V_{RRM}$<br>V | $V_{RSM}$<br>V |
|---------------|----------------|----------------|
| 02            | 200            | 300            |
| 04            | 400            | 500            |
| 06            | 600            | 700            |
| 08            | 800            | 900            |
| 10            | 1000           | 1100           |
| 12            | 1200           | 1300           |
| 14            | 1400           | 1500           |

This Report is applicable to higher or lower voltage grades when supply has been agreed by Sales/Production.

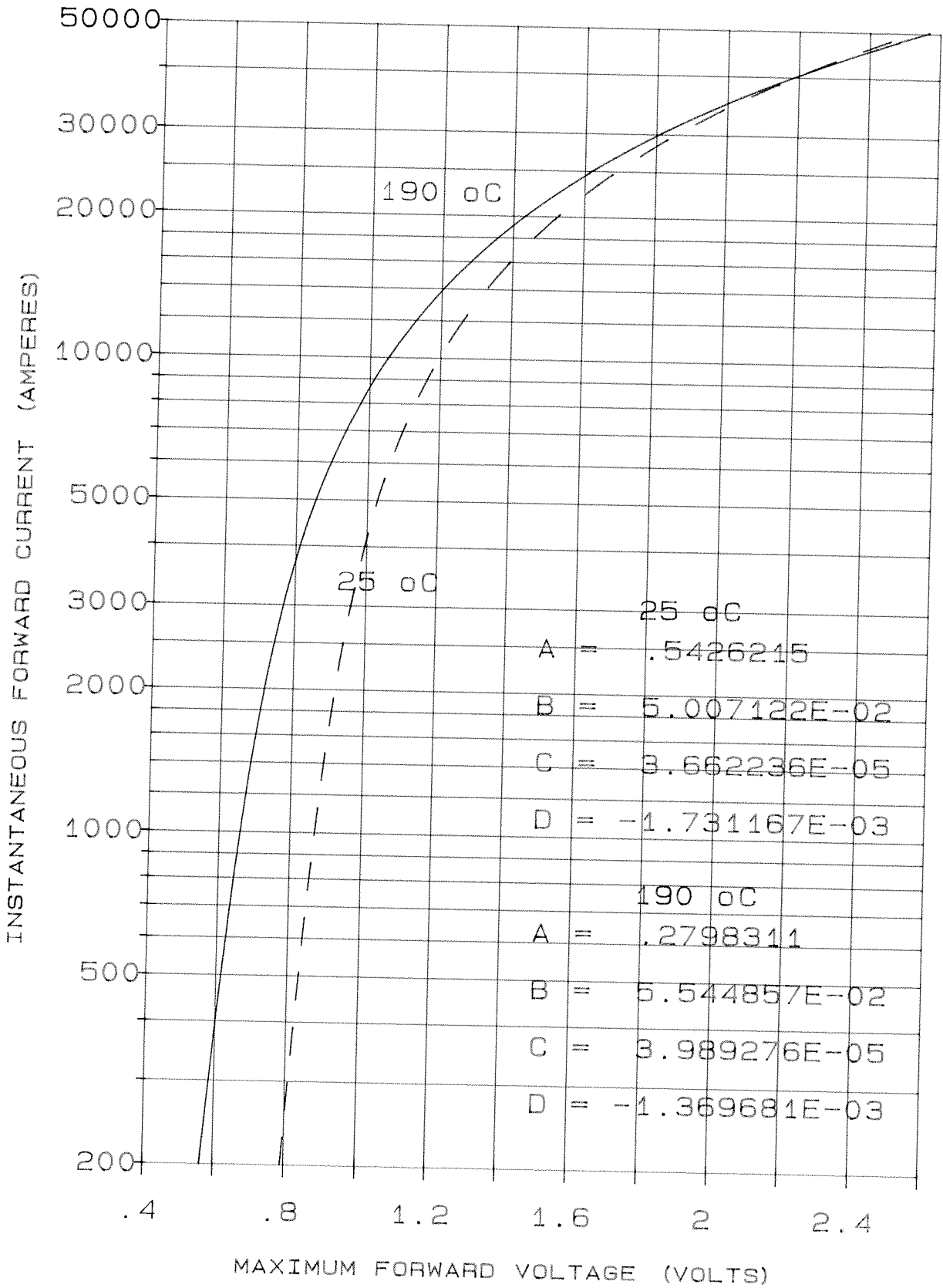
DOUBLE SIDE COOLED



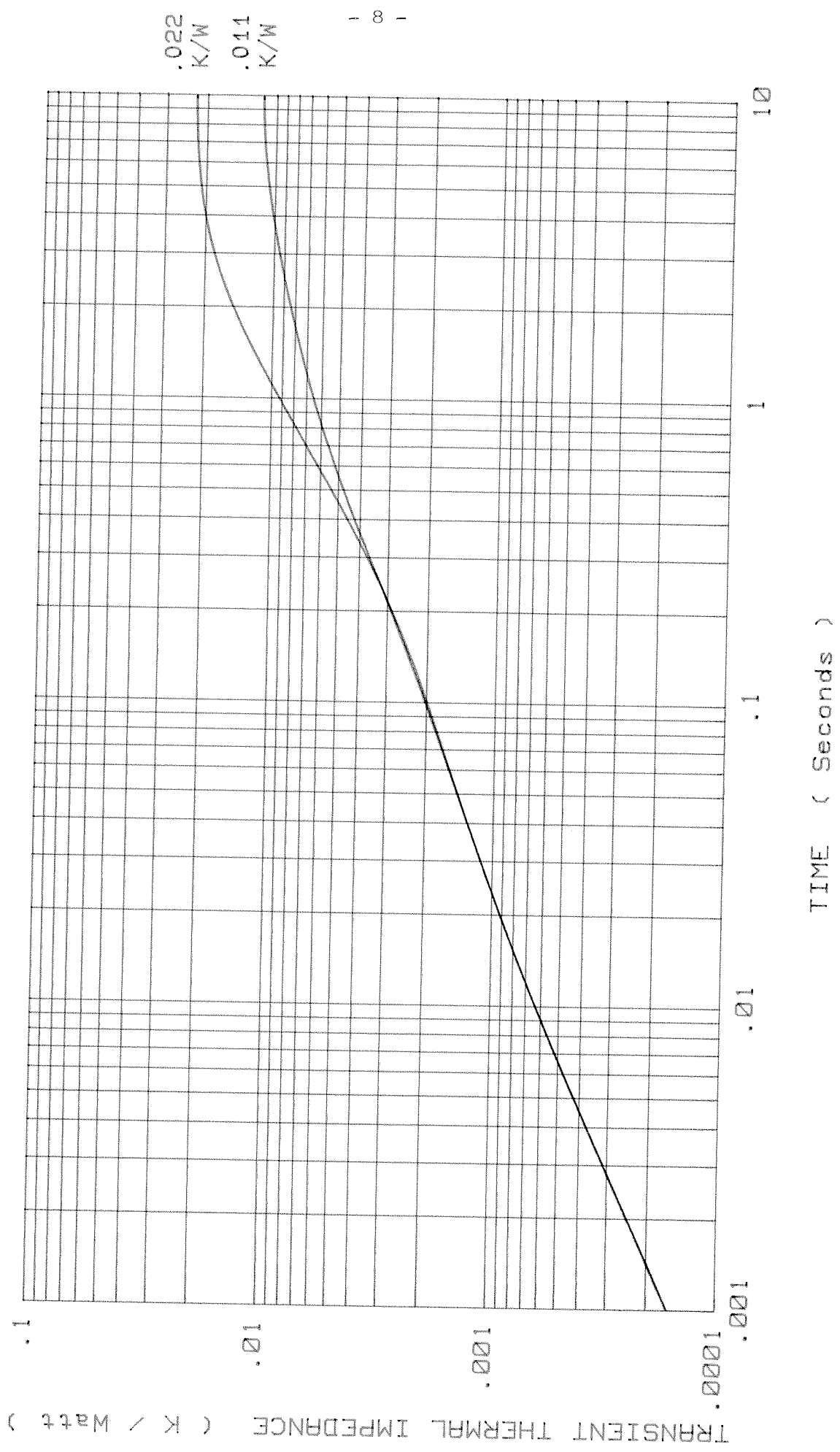
SINGLE SIDE COOLED



### FORWARD CHARACTERISTIC OF LIMIT DEVICE



JUNCTION TO SINK TRANSIENT THERMAL IMPEDANCE





INTERNATIONAL OUTLINE No.

G.A. DWG No. 159B100H601

WEIGHT. 1.7kg

FINISH. NICKEL PLATE

DEVICE MOUNTING: CLAMPING FORCE TO BE APPLIED ON CENTRE LINE OF LOCATION HOLES AND BE EVENLY DISTRIBUTED OVER AREA OF CONTACT. FLAT TOL. ON SURFACES TO WHICH DEVICE IS CLAMPED TO BE 0.04 WIDE. CLAMPING FORCE =  $3700 \pm 1000 \text{kgf.}$  ( $37 \pm 10 \text{kN}$ )

TYPE NUMBER

CXC15C

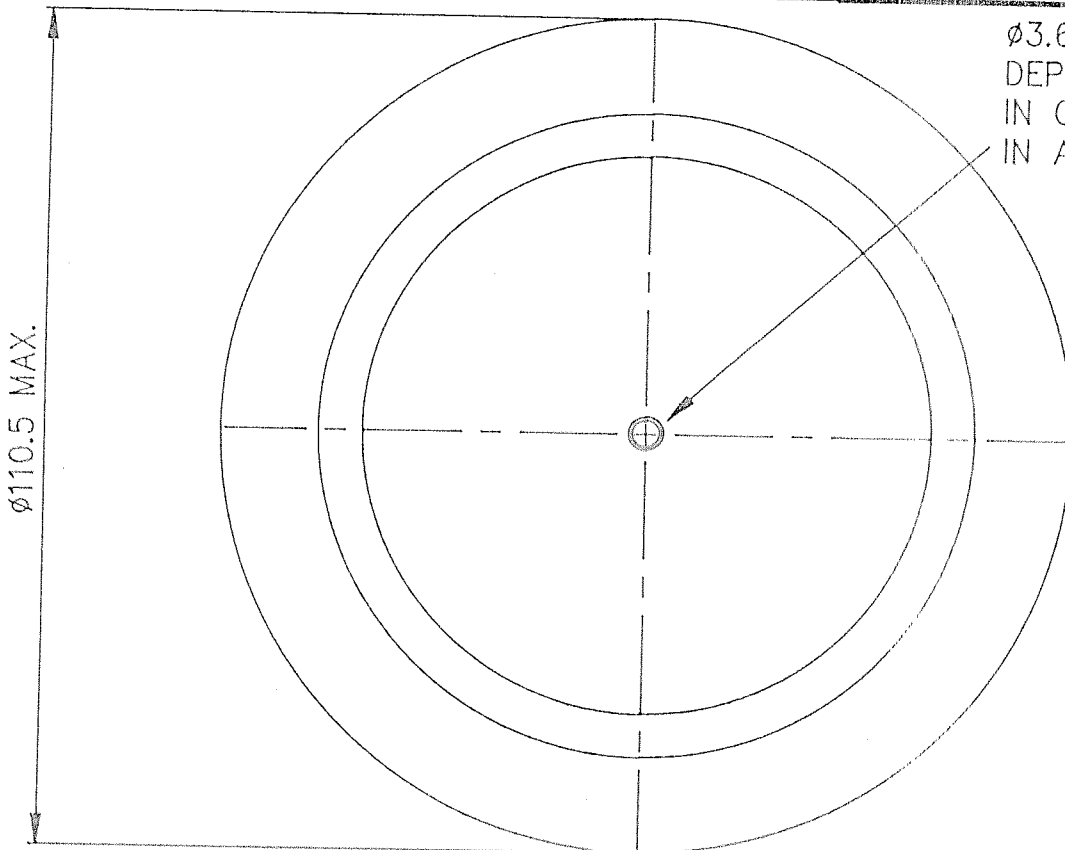
CXC20C

CXC21C

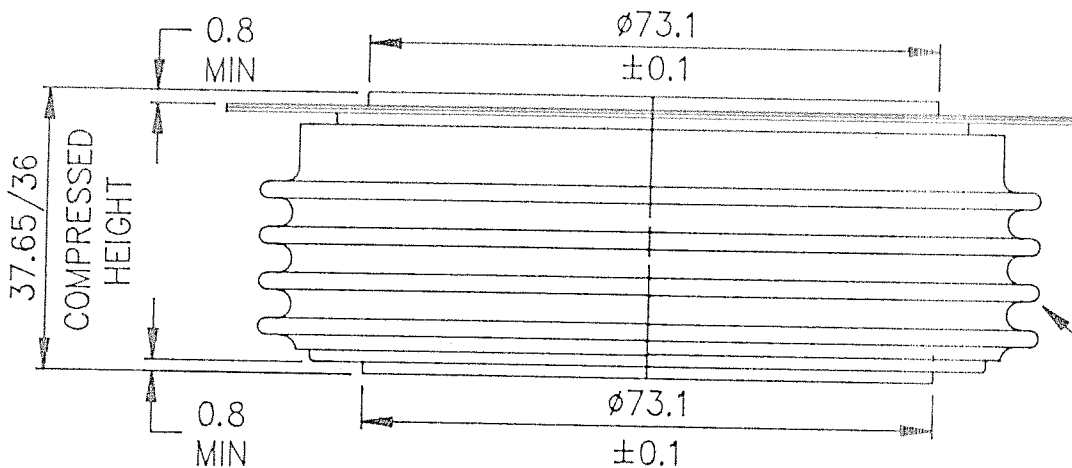
CXC30C

CXC32C

- 10 -



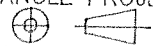
$\phi 3.6/3.5 \times 3 \text{ MIN.}$   
DEPTH 2-HOLES, ONE  
IN CATHODE AND ONE  
IN ANODE.




CREEP PATH  
OVER  
CONVOLUTIONS  
= 41.6 MIN.

THE INFORMATION CONTAINED IN THIS DWG IS PROTECTED BY COPYRIGHT

|       |     |          |            |
|-------|-----|----------|------------|
| SCALE | 1/1 | ISS      | REVISIONS  |
| DRAWN | HDN | CAD      | HDN        |
|       | 4   | 13-09-90 | REDRAWN ON |

THIRD ANGLE PROJECTION.  
  
 DWG. COMPLIES WITH BS 308.  
 DIMNS. IN MILLIMETRES.  
 DWG No. 100A293

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